

REMARKS

Claims 1-16 and 21-24 are currently pending and presently under consideration. Applicant respectfully requests consideration of the subject application in view of the amendments and comments herein.

The following paragraphs distinguish the amended and/or new claims over a reference (Eckel, et al. US 6,388,399) cited against originally filed claims.

The subject invention relates to the field of traffic signals and an LED traffic signal module associated therewith. Claim 1 recites a LED traffic signal module having an electronic switch that continuously receives a voltage from an associated voltage source and powers a power supply of the module that powers one or more LEDs residing within the module. The module further includes a flasher operatively coupled to the electronic switch to toggle a state (e.g., "on" and "off") of the electronic switch at a predetermined rate in order to control when power is supplied to the one or more LEDs.

The module further includes a dimming interface operatively coupled to the power supply for dimming the at least one LED. The module generates at least one status signal indicative of one or more of the following: a current traveling through the at least one LED; a voltage applied across the at least one LED; a light energy emitted from the at least one LED;; a voltage applied across the at least one LED; a light energy emitted from the at least one LED; an input current to the LED module generated by the associated voltage source, and an input voltage to the LED module generated by the associated voltage source, and conveys the at least one status signal to an associated controller that generates a command in response, the command is based on the at least one status signal and controls the at least one LED of the LED module, wherein the command includes one or more of the following: an on or off command, a dimming command, a flashing command, and an emergency disconnection command.

Claim 16 recites a traffic signal with a LED traffic signal module that is substantially similar to the module as set forth in claim 1. The module additionally is associated with a voltage detecting circuit for measuring the voltage applied across the at least one LED, a current monitoring circuit for measuring the current traveling through the at least one LED; and a light sensor mounted adjacent to the at least one LED array for detecting the light energy emitted from the at least one LED. The traffic signal further includes the voltage source that continuously supplies the voltage to said traffic signal and the controller that generates the command signals based on the status information.

Claim 21 recites a traffic signal comprising a voltage source that supplies a source voltage for the said traffic signal, an intelligent traffic signal LED module with at least one LED that is powered by the voltage source, and a controller that generates at least one command, including an on/off command, a dimming command, a flashing command, and an emergency disconnection command, that controls the LED based on one or more status signals indicative of one or more of a current flowing through the LED, a voltage across the LED, a light output of the LED, an input current of the voltage source and input voltage of the voltage source.

Eckel, et al. does not contemplate traffic signals or intelligent traffic signal LED modules for controlling traffic signal LEDs as recited in the subject claims. For instance, the subject claims recite a voltage source that continuously supplies a voltage to a traffic signal. Eckel, et al. instead discloses a voltage source (70) used to power internal or external low voltage control circuitry (See col. 10, ll. 23-31), and not traffic signals as recited in the subject claims. The subject claims also recite monitoring status of a LED traffic signal module through a voltage across an LED of the module, a current through an LED of the module, a light emitted by an LED of the module, an LED module input voltage, and an LED module input current. As noted above, Eckel, et al. does not contemplate traffic signals and/or traffic signal modules and, thus, cannot teach or suggest such aspects of the claimed invention. At most, Eckel, et al. teaches a voltage detecting circuit (62) that monitors the voltage of a power supply (and not a voltage directly across a LED of a traffic signal module). The subject claims further recite a light sensor mounted adjacent to at least one LED array for detecting light emitted by the at least one LED of the LED traffic signal module. In contrast, Eckel, et al. discloses a light sensor (450) that measure ambient light; not light emitted by a LED of a traffic signal. The subject claims further recited an emergency disconnect that removes power to the LED of the LED traffic signal module upon receiving a disconnect command by tripping a fuse that opens a power supply circuit sourcing the LED. In contrast, Eckel, et al. discloses a momentary contact switch that momentarily disconnects an external power supply.

For at least the reasons provided above, it is readily apparent that Eckel, et al. does not teach or suggest the claims herein.

Respectfully submitted,

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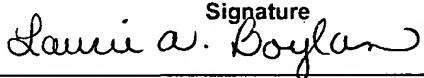
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